

**Notice of Allowability**

Application No.

10/067,616

Examiner

Dalei Dong

Applicant(s)

HWU ET AL.

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to RCE filed June 8, 2005.
2. ☒ The allowed claim(s) is/are 1-3,5-38,44 and 45.
3. ☒ The drawings filed on 04 February 2002 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All   b) ☐ Some\*   c) ☐ None   of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |                                                                                                                     |                                                                                        |
|---------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                         | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment                               |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|                                                                                                                     | 9. <input type="checkbox"/> Other _____.                                               |

### **DETAILED ACTION**

#### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 8, 2005 has been entered.

#### ***Response to Arguments***

2. Applicant's arguments, see pages 10-19, filed May 10, 2005, with respect to claims 1-3, 5-38, 44 and 45 have been fully considered and are persuasive. The Rejection of claims 1-3, 5-38, 44 and 45 has been withdrawn.

#### ***Allowable Subject Matter***

3. Claims 1-3, 5-38, 44 and 45 allowed.
4. The following is an examiner's statement of reasons for allowance:

Regarding to independent claim 1, prior art of record taken alone or in combination fails to teach or suggest a thermionic emission device, comprising: a cathode

having an electron-emitting coating disposed thereon, the cathode suspended near the cavity in the substrate; an elongated grid supported by at least one elongated wall-shaped support extending perpendicularly from the substrate, the wall-shaped support configured to be free standing and not supporting the anode, in combination with other claimed features of the present claimed invention.

Regarding to independent claim 21, prior art of record taken alone or in combination fails to teach or suggest a thermionic emission device, comprising: a first member having an electron-emitting coating, wherein the first member is suspended near the cavity; a first elongated grid supported by at least one elongated wall-shaped support extending perpendicularly from the substrate, the wall-shaped support configured to be free standing and not supporting the second member, in combination with other claimed features of the present claimed invention.

Regarding to independent claim 30, prior art of record taken alone or in combination fails to teach or suggest a thermionic emission device, comprising: a cathode having an electron-emitting coating disposed thereon, the cathode suspended near the cavity in the substrate; an elongated grid supported by at least one elongated wall-shaped support extending perpendicularly from the substrate, the wall-shaped support configured to be free standing and not supporting the anode, in combination with other claimed features of the present claimed invention.

Regarding to independent claim 44, prior art of record taken alone or in combination fails to teach or suggest a thermionic emission device, comprising: a cathode means having an electron-emitting coating disposed thereon, wherein the cathode means is suspended near the opening of the cavity in the substrate means; a grid means supported on at least one elongated wall-shaped support extending perpendicularly from the substrate means, the wall-shaped support configured to be free standing and not supporting the anode means, in combination with other claimed features of the present claimed invention.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### *Conclusion*

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following prior art are cited to further show the state of the art of composition of a thermionic emission device.

U.S. Patent No. 5,223,766 to Nakayama.

U.S. Patent No. 5,729,086 to Jeong.

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U.S. Patent No. 6,633,119 to Chalamala.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalei Dong whose telephone number is (571)272-2370. The examiner can normally be reached on 8 A.M. to 5 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on (571)272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



D.D.

July 27, 2005



Joseph Williams  
Primary Examiner  
Art Unit 2879